Alternative C - Historic Perspective – circa 1900

The goal of this alternative is to provide a method for meeting all fire hazard reduction needs and improving stand health by considering the historic conditions that existed through the late 1800s as a result of natural regimes and/or Native American influences only. Based on photographic and scientific documentation of the LCM area prior to European settlement, the site most likely had the following conditions:

- A fire return interval less than 25 years (based on fire scar research on dry ponderosa/mixed conifer forests for southern Blue Mountains, Oregon. Heyerdahl and Agee, 1996).
- Ponderosa pine as the dominant vegetation, bordered by grass/shrubs on the lower elevations, and mixed conifer (Douglas-fir (PSME), ponderosa pine (PIPO), etc.) on the upper elevations.
- Very few western juniper and those present were confined to fire-resistant sites such as rocky outcrops
- Diversity within the system, creating a mosaic pattern of habitat and conditions.
- A normal fire return interval that allowed PIPO and PIPO/PSME seedlings to establish and then be thinned/pruned. This was usually accomplished by a series of low-moderate intensity burns that cleared much of the above-ground understory vegetation, thinned clumps of pine/fir seedlings, and maintained healthy spacing (Agee 1993)

Historic photos demonstrate that timbered stands existed primarily on the top and north face of LCM, and in moister drainages. Lower hillsides and ridge-tops resembled grassland/shrub steppe communities with scattered pine or fir across the landscape. These areas were delineated using a combination of sources including: historic photos, historic survey data, stand exam data, digital orthographic quadrangle maps and aerial photos. From the historic photos and historic surveys, areas with forest stand conditions were delineated on a map of the Little Canyon Mountain area. The stand exam data collected in 2002 was summarized and the units with larger (assumed to be older) trees were delineated. Finally the digital orthographic quadrangle maps and aerial photos were used to delineate areas of thicker forest (i.e. higher canopy closure). Once delineated, units were drawn including these areas; which are taken to be the areas with forest type vegetation as it existed around the turn of the century. The IDT refers to these areas as 'traditional' forest areas.

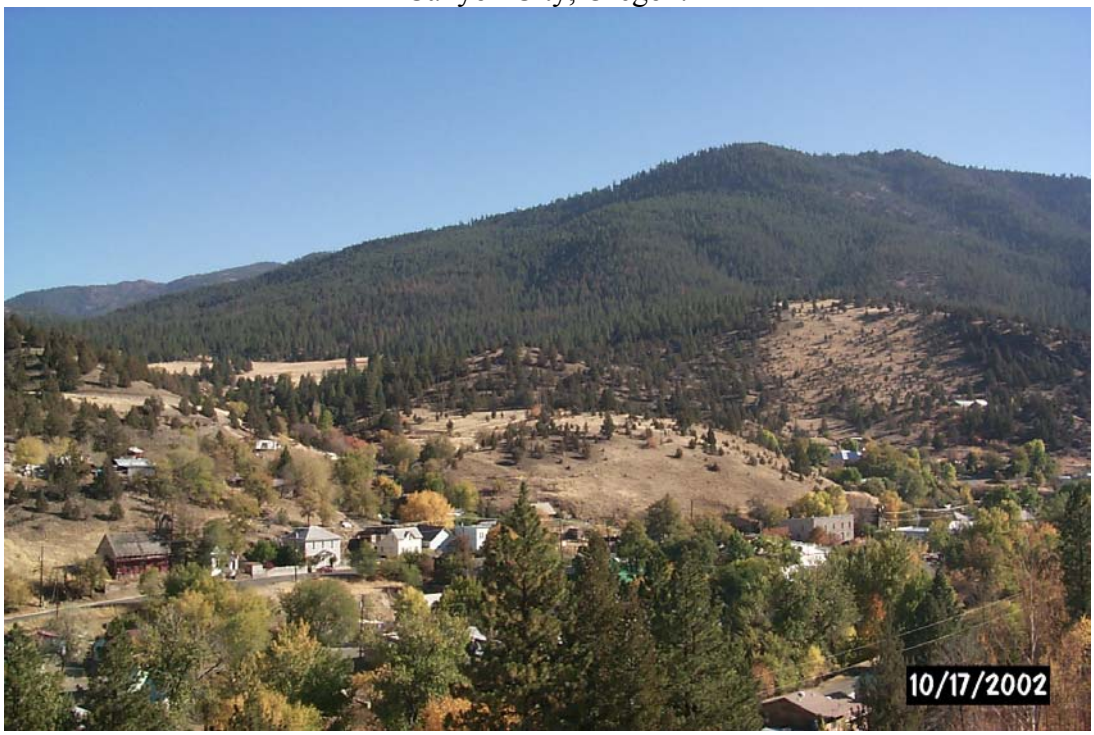
This project would treat the majority of the 2500 acres within the LCM project boundary to varying degrees. In the 'traditional' forest areas, on approximately 672 acres, and outside existing PACFISH buffers, stands would be thinned to reduce density. These units would be thinned to a maximum target basal area of 60 - 100 ft2/acre to reduce crown fire risk and be consistent with the UMZ for forest health concerns. Juniper and white-fir would targeted as these two species are not represented in the historic condition to the degree they occur on the mountain now. A small buffer approximately 100 – 250 feet would be left untreated around the area known as the "pit" to provide a line-of-site barrier and maintain the ability to use vegetation for future management such as trail

designation and closure. In addition approximately 210 acres will be thinned to a target basal area of 100-150 rationale which is less dense than existing forest conditions to increase tree vigor while providing niche and pocket habitat for various wildlife species.

The understory vegetation in the ‘traditional’ forest areas would be piled and burned, and the site would be set for future prescribed burn entries within the natural fire interval cycle of 7 to 25 years. In addition, to prevent the establishment of weeds, these units may need to be seeded and/or planted (shrubs) after the burn if adequate seed source is not present.

The following photos taken at the turn of the century and in 2002 from relatively the same location show the contrast in conditions between present and historic (circa 1900).

Canyon Mountain 1898-1904. Photo obtained from Grant County Historical Museum – Canyon City, Oregon.



Canyon Mountain in October 2002.

Outside the ‘traditional’ forest areas, approximately 1202 acres would be treated to move the area toward pre-European settlement conditions. In these units, all trees would be removed down to a maximum target basal area range of 30-50 rationale ft2/acre beginning with juniper and moving into the conifer species. In order to avoid a stark contrast, some gradation between the ‘traditional’ forest areas and the open areas would occur. Tree removal would be done using ground based logging (287 acres) and aerial logging (596 acres). On slopes greater than 35 percent, an aerial yarding system capable of full suspension of logs would be required. On slopes less than 35 percent, yarding would be accomplished by a ground based yarding system capable of one end log suspension. The project area would be whole-tree logged for commercial trees (greater than 7 inches diameter) and trees with less than commercial value would be cut and piled for burning or removal.

In addition, curl-leaf mountain mahogany (CMM) would be thinned from the majority of the units. This shrub was not common in the mid-1800s, and shrubs that were present were healthier than the stands present on LCM today. Individual shrubs in the eastern portion of the project area would be untreated until the area is burned through prescription in the future. Dense, decadent stands on the top of LCM and on the western slopes would be thinned to reduce the continuous fuel loads. Western juniper would also be targeted for removal from the project area since it was minimally present in the late 1800s. Larger juniper, found on rockier, fire-resistant sites would be retained, with all other juniper cut and removed, or piled for burning.